

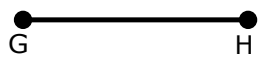
A • A point is a location. It has no length, width or height. Points are named with capital letters.



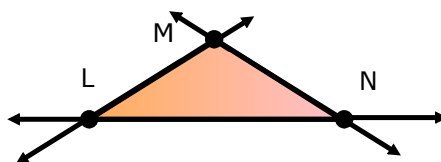
A line is a straight length in one dimension. Lines are named by two points on the line or with a lower-case letter. The ends of a line are points.



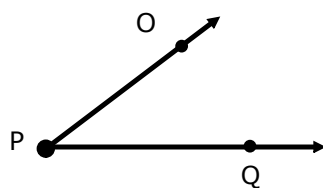
A ray is a line extended through one end-point. Rays are named by two points on the ray.



A segment is part of a line with two endpoints. Segments are named by two points on the segment.

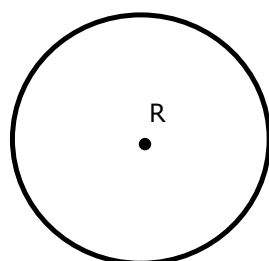


A plane is the area enclosed by at least three lines.



An angle is two rays that share an endpoint.

A circle is a set of points all the same distance from a center point.

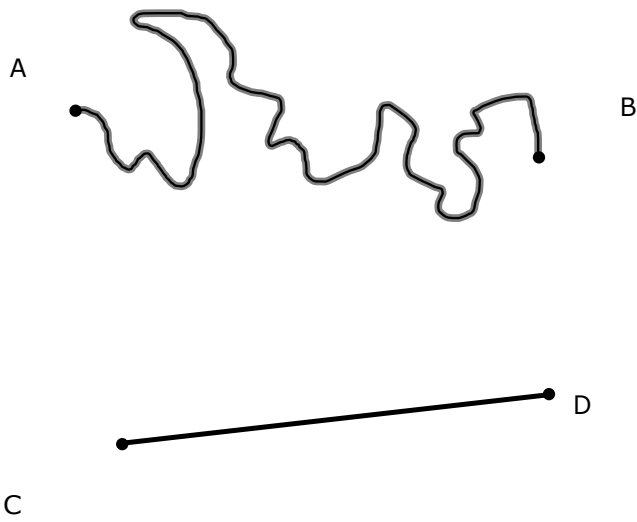


EUCLID'S FIRST POSTULATE...

There is one, and only one, straight line between any two points.

DO THIS:

1. Take a sheet of paper and draw four points anywhere you like. Label the points A, B, C, and D.
2. Draw a curvy path from point A to point B.
3. Use a straightedge to draw a straight line from point C to point D.
4. Compare your curvy path and straight line to those of a neighbor. Discuss similarities and differences in your drawings.



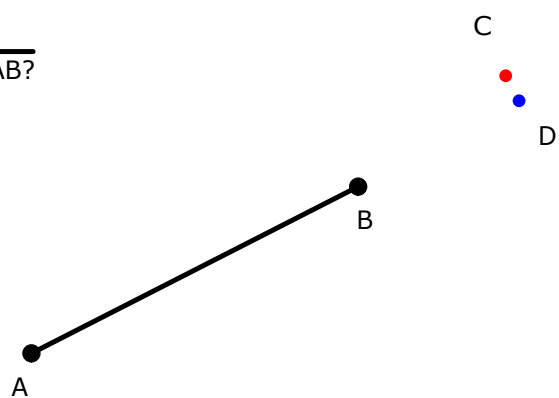
Conclusion:

Your curvy path probably doesn't match up with anyone else's. Your straight line, though it may not be the same length, will match up with anyone else's straight line. This proves the first postulate.

EUCLID'S SECOND POSTULATE...

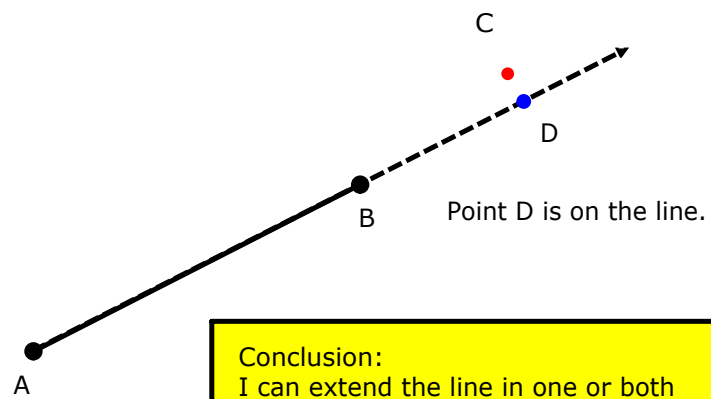
A line can be extended forever through its endpoints.

Is point C or D on \overline{AB} ?



EUCLID'S SECOND POSTULATE...

A line can be extended forever through its endpoints.



Conclusion:
I can extend the line in one or both
directions for as far as I need for any
application.

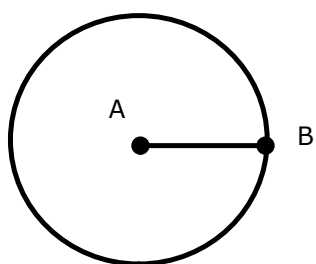
EUCLID'S THIRD POSTULATE...

A circle can be defined by a line using the distance between the endpoints as the radius.



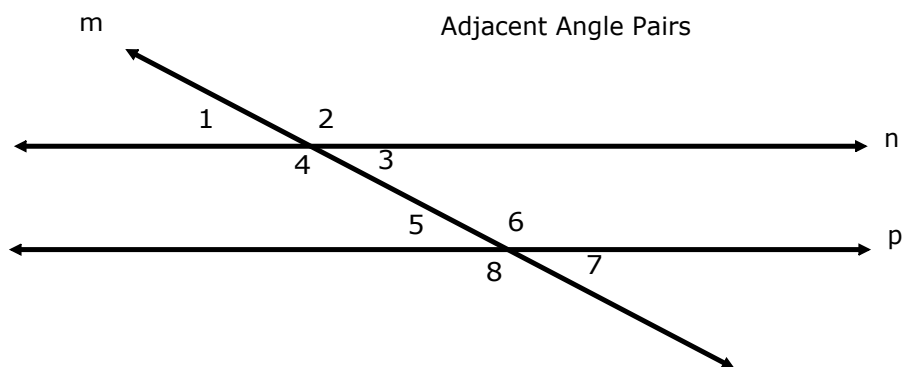
EUCLID'S THIRD POSTULATE...

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EUCLID'S THIRD POSTULATE...

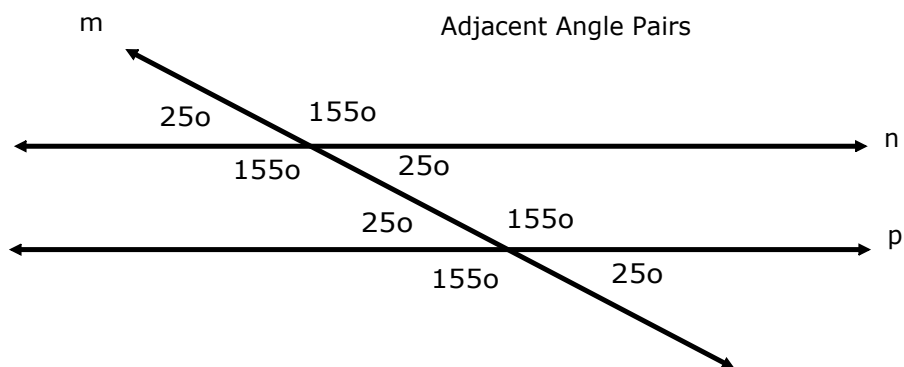
A circle can be defined by a line using the distance between the endpoints as the radius.



Adjacent angles are neighbors!

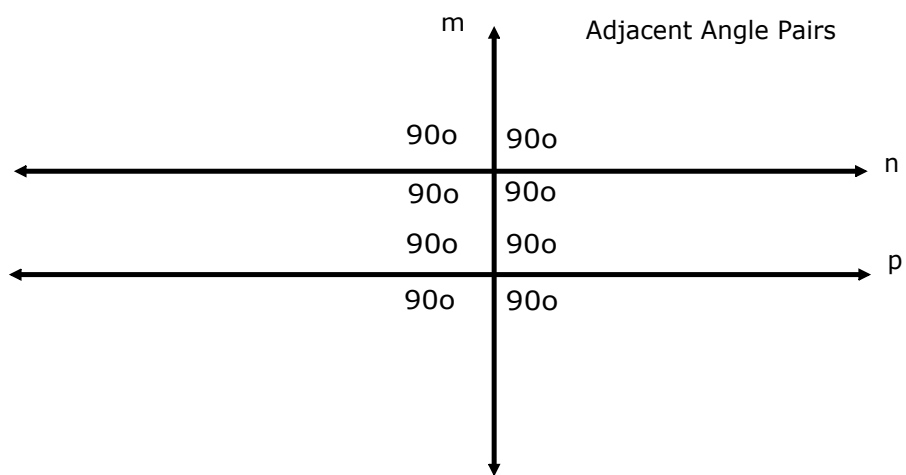
Note that line m is called a transversal because it cuts through a series of parallel lines.

Are the adjacent angle pairs equal to one another?



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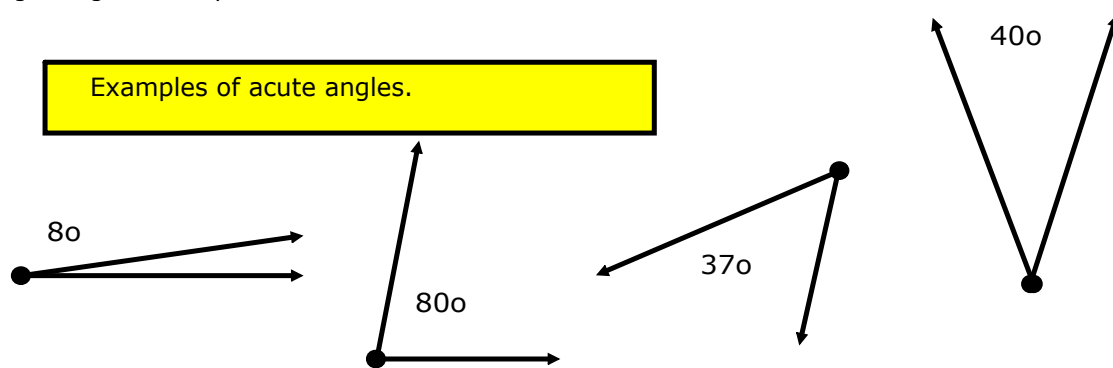
Not usually! In this case, the adjacent angle pairs are called supplementary angles. That is to say they add up to a line, or 180 degrees. This leads us to...



If the adjacent angle pairs do equal one another, then you create a special angle called a Right Angle.

EUCLID'S FOURTH POSTULATE...

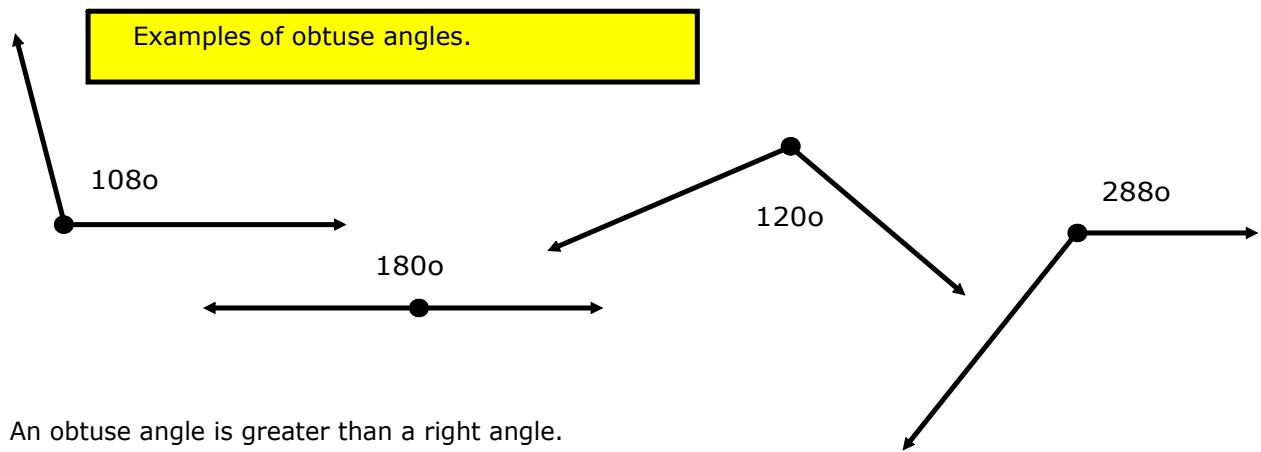
All right angles are equal...



An acute angle is less than a right angle.

EUCLID'S FOURTH POSTULATE...

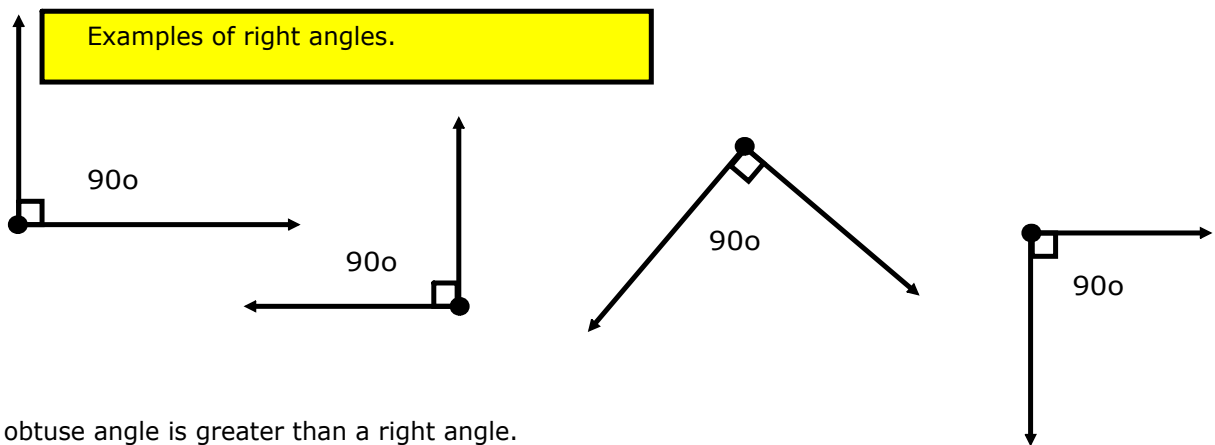
All right angles are equal...



An obtuse angle is greater than a right angle.

EUCLID'S FOURTH POSTULATE...

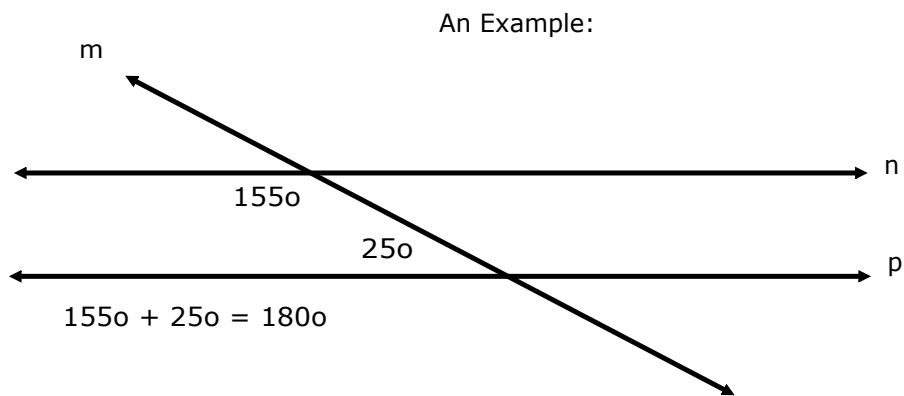
All right angles are equal...



An obtuse angle is greater than a right angle.

EUCLID'S FIFTH POSTULATE...

If two lines (n and p) are crossed by a transversal (m) and the interior angles on the same side equal exactly two right angles (180°) then the lines (n and p) are parallel...



EUCLID'S FIFTH POSTULATE...

If two lines (n and p) are crossed by a transversal (m) and the interior angles on the same side equal exactly two right angles (180°) then the lines (n and p) are parallel...

